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**HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)**

CONFERENCE –YOUNG LEADERS IN GEORGIAN ENERGY SECTOR

Event Report

April 23, 2014

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CONFERENCE –YOUNG LEADERS IN GEORGIAN ENERGY SECTOR

Event Report

USAID HYDRO POWER AND ENERGY PLANNING PROJECT
(HPEP)

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DELOITTE CONSULTING LLP

USAID/CAUCASUS OFFICE OF ECONOMY, ENERGY AND
ENVIRONMENT

APRIL 23, 2014

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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LIST OF ACRONYMS

Acronym	Term
CBA	Cost-Benefit Analysis
DAP	Day Ahead Planning
ETM	Electricity Trading Mechanism
GEMM	Georgian Electricity Market Model
GNERC	Georgian National Energy and Water Supply Regulatory Commission
GTU	Georgian Technical ;University
HIPP	Hydropower and Investment Promotion Investment Project
HPEP	Hydro Power and Energy Planning Project
HPP	Hydro Power Plant
IT	Information Technology
MoE	Ministry of Energy
MO	Market Operator
TSO	Transmission System Operator
VOLL	Value of Lost Load
USAID	United States Agency for International Development

Background and Objectives

The main goals for addressing gender-related barriers in the course of the USAID's Hydro Power and Energy Planning Project (HPEP) are as follows:

1. Highlight successful women leaders in public events in order to encourage more women to work in energy sector; and,
2. Support young female students to enhance their capabilities through educational and training opportunities - effective young leaders actually hone their skills through workshops and training programs

The participation of women in energy related conferences and trainings is low as the energy sector is often perceived as unsuitable for women. Women are therefore discouraged from entering a potential high growth sector of the economy. However, project activities that highlight successful women in the energy sector may influence these perceptions by both men and women

The energy sector offers new and exciting careers for technically-minded people. It is important to support young female students to enhance their capabilities through educational and training opportunities.

Conference - Young Leaders in Georgian Energy Sector 2014 sought to go beyond simply ensuring that both women and men are equitably represented in the event. It was supported female participants in making presentations, reports and statements, and to encourage their active involvement in the Q&A sessions.

The goal of this conference is to strengthen and promote young leaders' role in Georgian energy sector, and to stimulate open discussion and exchange of information on recent developments in hydropower investment issues that will facilitate coordination among all energy stakeholders. This is the second time USAID has supported GTU in a young leaders' conference. USAID HPEP made a special effort this year to include young female leaders, doctoral candidates and students from Georgian Technical University, Robakidze State University and Tbilisi public schools in Georgian and saw a balanced representation from both male and female presenters.

Participation rate of female presenters in the Conference made 59% (total number of the presenters -17; among them 10 women, 7 men).

Attendees

Conference - Young Leaders in Georgian Energy Sector 2014 was attended by the representatives of the Ministry of Energy and other energy stakeholders, as well as the university students from economic and power engineering departments of Georgian universities and senior students from Tbilisi Specialized Public Schools. Total number of the attendees was 108. Participation rate of females in the Conference made 35% (38 females and 70 males).

The original roster of attendees, with indications of final participation, is attached as an appendix to this report. The original roster of attendees is not translated.



Above are the photos from the Conference - Young Leaders in Georgian Energy Sector

Themes

The Conference had excellent presentations and lively discussions among members of the audience and speakers.

The list and synopsis of all presentations is attached as an appendix to this report.

Outcomes

The Conference provided a golden opportunity for meeting and exchanging information between the young female leaders and students of universities and public schools.

Conference participants highly appreciated USAID/HPEP's efforts to highlight successful women leaders in public events in order to encourage more women to work in energy sector and to support young female students to enhance their capabilities through the event.

Conference participants also acknowledged importance of implementing Georgian Electricity Market Model GEMM 2015 and Electricity Trading Mechanism to keep pace with the regional developments.

Media Coverage

Media attended the Conference, TV Channels Rustavi 2 and Ertulovneba took interviews from Marika Valishvili, Deputy Minister of Energy of Georgia, and Gia Arabidze, Dean of the Faculty of Power Engineering and Telecommunication of Georgian Technical University and Irakli Darchiashvili, 4th year student, Georgian Technical University. A press release was published on the internet sites of the news agencies and the MoE official site.

List of attachments:

1. Agenda
2. Press release
3. Original roster of attendees
4. List and synopsis of the presentations
5. List of attendees broken down by gender

Annex 1

Conference - Young Leaders in Georgian Energy Sector Agenda

Hour	Topic	Duration
01:30 – 02:00	Registration	30 min.
02:00 – 02:30	Opening Speech Mariam Valishvili – Deputy Minister of Energy; Sukru Bogut – Senior Energy Infrastructure Advisor, USAID Jake Delphia - HPEP COP Gia Arabidze - Dean of the faculty of Power Engineering and Telecommunication, GTU	30 min.
02:30 – 02:40	GEMM 2015 Giorgi Shukakidze Ministry of Energy	10 min.
02:40 – 02:50	Smart grid – The future of electric power transmission Irakli Darchiashvili GTU	10 min.
02:50 – 03:05	Regulation of Georgian Energy Sector – current trends and challenges Irma Kavtaradze USAID/Hydro Power and Energy Planning Project	15 min.
03:05 – 03:15	ECLEDS clean energy program concept and its importance for Georgia Inga Pkhaladze Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program	10 min.
03:15 - 03:55	Lunch	40 min.
03:55 – 04:05	Renewable Energy Sources Marita Arabidze Ministry of Energy	10 min.
04:05 – 04:15	Electricity Prices in Competitive Electricity Markets and Georgia's Prospects Nino Maghradze GTU	10 min.
04:15 – 04:25	Cost-Benefit Analysis (CBA) Model Tamuna Papava TBSC	10 min.
04:25 – 04:35	The consumption of reactive power in Georgian Electricity System Nino Gozalishvili Georgian Technical University	10 min.
04:35 – 04:45	Electricity transmission tariff principles based in support of the long term RAB-optimal regulation of econometric modeling” Nino Kikabidze Georgian Technical University	10 min.
04:45 – 04:55	The Estimation of Value of Lost Load (VOLL) for Georgia Sophie Khujadze USAID/Hydro Power and Energy Planning Project	10 min.
04:55 – 05:05	Medium term forecast of Energy Balances Nino Giorgishvili Georgian Technical University	10 min.
05:05 – 05:15	Methodology of Country's Energy Security Assessment Irakli Bichiashvili GTU	10 min.
05:15 – 05:25	Modern Magnetic Materials and their future Guram Mirinashvili GTU	10 min.
05:25 – 05:35	Closing Speech	10 min

About USAID in Georgia: During the past 20 years, the American people, through USAID, have invested more than \$1 billion in Georgia. USAID projects are designed to support Georgia's transition to a free and prosperous democracy and include initiatives to accelerate economic growth, develop democratic institutions, and improve health and education. USAID provides economic and humanitarian assistance in more than 100 countries. For more information, please visit <http://georgia.usaid.gov>

PRESS RELEASE

FOR IMMEDIATE RELEASE

April 23, 2014

For additional information please contact:
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Hydro Power and Energy Planning Project
11 Apakidze str. Tbilisi, Georgia
Tel.: (995 32) 223 45 70; (995) 91 11 09 91

U.S. Government Stimulates Young Leaders Role in the Energy Sector of Georgia

Tbilisi, April 23, 2014, 14:00 o'clock, Georgian Technical University, Administrative Building, N. Nikoladze Conference Hall, 3rd floor – USAID's Hydro Power and Energy Planning Project (HPEP) and the Ministry of Energy of Georgia are holding a Conference - "Young Leaders in Georgian Energy Sector" for professional and academic circles of Georgian energy sector.

The goal of this conference is to strengthen and promote young leaders' role in Georgian energy sector, stimulate open discussion and exchange of information on recent developments in hydropower investment issues that will facilitate coordination among all energy stakeholders. We are making a special effort this year to include young female leaders and high school students from Tbilisi public schools in Georgian energy sector and look forward to a balanced representation from both male and female presenters.

The Conference will be attended by the representatives of the MoE and other stakeholders as well as the university students from economic and power engineering departments and senior students from Tbilisi public schools.

Media is invited to attend and cover the conference.

Annex 3

Original roster of attendees

USAID HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

Attendance Sheet

Event Name: Young Leaders in Georgian Energy Sector
Dates: 04/23/2014 Time 01:30-05:35

First Name, Last Name	Position	Contact Details	Signature
გ. ჯანაშვილი	128-ე სკოლის VIII კლასი	595-64-31-32	[Signature]
ბ. ბერიძე	128-ე სკოლის VIII კლასი	595-21-52-10	[Signature]
ნ. ბერიძე	ს. ბერიძის სახელობის სკოლა	593 14 40 80	[Signature]
ნ. ბერიძე	EC-LEDს	599699757	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	593 15 30 91	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	555 14-16-15	[Signature]
ნ. ბერიძე	ს. ბერიძის სახელობის სკოლა	599 09 01 09	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	596-12-06-77	[Signature]
მ. ბერიძე	DCOP	527 275 272	[Signature]

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USAID HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

First Name, Last Name	Position	Contact Details	Signature
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	599 77 44 93	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	599 574 474	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	551 72 75 79	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	555 30 11 93	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	555-62-81-01	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	598 544 725	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	551-35-55-29	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	598-566-903	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	595455228	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	599 36 20 33	[Signature]
მ. ბერიძე	ს. ბერიძის სახელობის სკოლა	552 002 284	[Signature]

2



HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

First Name, Last Name	Position	Contact Details	Signature
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HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

First Name, Last Name	Position	Contact Details	Signature
სალომე ჯანაძე	სპეციალისტი	salom-janaidze@yahoo.com	
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დავით მარსადელი	სპეციალისტი	davit-marsadeli@yahoo.com	
მარიკა ბარბაქაძე	სპეციალისტი	marika-barbakadze@mail.ru	
გეტო ტყეშელაშვილი	სპეციალისტი	geto-tkeshelashvili@mail.ru	
მარიკა ბარბაქაძე	სპეციალისტი	marika-barbakadze@gmail.com	
ანა კაველიძე	სპეციალისტი	ana-kavelidze.1994@gmail.ru	
დავით ჯანაძე	სპეციალისტი	davit-janadze@mail.ru	
სანა ჯანაძე	სპეციალისტი	sana-janadze@yahoo.com	
ლალი კოხუელიძე	სპეციალისტი	lali-koshvelidze@mail.ru	



HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

First Name, Last Name	Position	Contact Details	Signature
მარიამ ბერიძე	სამართლებრივი	597 19 75 73	
ნინო ზეინბერგი	სამართლებრივი	597 36 29 16	
ლევან მარაბიშვილი	სამართლებრივი	597 422 225	
გიორგი ბერიძე	სამართლებრივი	593 46 39 75	
ნინო მარაბიშვილი	სამართლებრივი	197 44 00 74	
მარიამ ზეინბერგი	სამართლებრივი	595 35 51 57	
ნინო ზეინბერგი	სამართლებრივი	598 3814 48	
ნინო ზეინბერგი	სამართლებრივი	598 4222 78	



HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

Attendance Sheet

Event Name	Young Leaders in Georgian Energy Sector		
Dates	04/23/2014	Time 01:30-05:35	
First Name, Last Name	Position	Contact Details	Signature
მარიამ ბერიძე	სამართლებრივი	593-022-322	
ნინო ზეინბერგი	სამართლებრივი	551-400-505	
ლევან მარაბიშვილი	სამართლებრივი	599-45-25-58	
გიორგი ბერიძე	სამართლებრივი	599 5785 20	
ნინო მარაბიშვილი	სამართლებრივი	593 38 44 96	
მარიამ ზეინბერგი	სამართლებრივი	538 65 61 53	
ნინო ზეინბერგი	სამართლებრივი	593 987 707	
ნინო ზეინბერგი	სამართლებრივი	577 35 00 26	
მარიამ ზეინბერგი	სამართლებრივი	555 1829 06	














HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)












First Name, Last Name	Position	Contact Details	Signature
Վահագն Բաբայան	Լ.Ք.Մ.	599 438151	Վ. Բաբայան
Զարգարյան Երան	Ընդհանուր	557 944 172	Զ. Զարգարյան
Տիգրան Բաբայան	Վ.Ք.Մ.	899 164890	Տ. Բաբայան
Զարգարյան Զարգար	Վերականգնողական	555 363330	Զ. Զարգարյան
Համբարձումյան Երան	Լ.Ք.Մ.	557 538887	Հ. Երան
Հրաչյան Կարեն	Լ.Ք.Մ.	598 909-969	Հ. Կարեն
Մանուկ Զարգարյան	Լ.Ք.Մ.	555-98-9577	Մ. Զարգարյան
Լիտ Զարգարյան	Լ.Ք.Մ.	579 606010	Լ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	579-99-60-02	Զ. Զարգարյան
Համբարձումյան Զարգար	Լ.Ք.Մ.	568 464946	Հ. Զարգարյան
Համբարձումյան Զարգար	Լ.Ք.Մ.	558 597047	Հ. Զարգարյան



HYDRO POWER AND ENERGY
PLANNING PROJECT (HPEP)

First Name, Last Name	Position	Contact Details	Signature
Զարգարյան Զարգար	Լ.Ք.Մ.	593 498084	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	591 62 7989	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	593 144085	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	555 517048	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	598777077	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	577729039	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	593354309	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	5939547.36	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	599 623346	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	599 510054	Զ. Զարգարյան
Զարգարյան Զարգար	Լ.Ք.Մ.	599-25-22-03	Զ. Զարգարյան

First Name, Last Name	Position	Contact Details	Signature
Նարայն Խոնի	Հոսքեր	593 329169	
Վահագն Գրիգորյան	Դժգոհ Լիցենզավոր	598 255253	
Տրոյմեն Դիմիտրով	Մեծ Զեկանյալ	591 260036	
Յուրի Բորիսով	Դժգոհ Լիցենզավոր	551 555344	
Դմիտրի Դանի		598-265-368	
Յուրի Բորիսով	Լիցենզավոր	598-76-83-22	
Դմիտրի Դանի	Լիցենզավոր	598-20-81-88	
Նիկոլայ Բորիսով	Լիցենզավոր	593-61-68-58	
Ռոման Դանի	Լիցենզավոր	595-039-029	
Դմիտրի Դանի	Լիցենզավոր	555-17-84-41	
Դմիտրի Դանի	Լիցենզավոր	598-0014-93	

First Name, Last Name	Position	Contact Details	Signature
Դմիտրի Դանի	Մեծ Զեկանյալ	599-16-50-99	
Վահագն Գրիգորյան	Լիցենզավոր	598-12-67-27	
Դմիտրի Դանի	Լիցենզավոր	558 924844	
Դմիտրի Դանի	Լիցենզավոր	577-44-32-68	
Դմիտրի Դանի	Լիցենզավոր	555 74-57-04	
Դմիտրի Դանի	Լիցենզավոր	555 039 024	
Դմիտրի Դանի	Լիցենզավոր	598445774	
Դմիտրի Դանի	Լիցենզավոր	574 895028	
Դմիտրի Դանի	Լիցենզավոր	558 577892	
Դմիտրի Դանի	Լիցենզավոր	568 21 27 37	
Դմիտրի Դանի	Լիցենզավոր	598 472 052	

List of synopsis of the presentations

1. **USAID Hydro Power and Energy Planning Project (HPEP). GEMM 2015 and the Electricity Trading Mechanism**

Main Goals of USAID Hydro Power and Energy Planning Project are: accomplishment of tasks outlined in the GEMM 2015; financing of the new run-of-river HPP projects through non-recourse (project-based) loans and facilitate cross-border, competitive clean energy trading. GEMM 2015 will create an enabling environment for development of Georgian hydro resources and at the same time protect domestic tariff costumers. The ETM is an hourly balancing and day ahead process that will enable electricity trading on the regional competitive power market.

2. **Regulation of Georgian Energy Sector – current trends and challenges**

Presentation describes sense and reasons of the regulation, types of monopolies, including natural monopolies, competition, differences between the competitive and monopolistic markets, types of power markets and objective of regulation – to balance interests of consumers and investors. Presentation briefly touches upon history of regulation – creation of the first energy regulator in the world, creation of Georgian energy regulation. Presentation also discusses EU requirements towards power regulation and price regulation methods in EU countries; compares current functions of the GNERC to what should be its function in future. As an example, presentation shows how to calculate market concentration and shows Georgian power market opening data in 2007 -2013 years. Presentation describes the goals of further developing power sector regulation in Georgia and USAID's assistance to the Georgian regulator.

3. **ECLEDS clean energy program concept and its importance for Georgia**

Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) is a United States Government (USG) initiative to support developing countries' efforts to pursue long-term, transformative development and accelerate sustainable economic growth while slowing the growth of GHG emissions. The initiative does this by building capacity in partner countries and providing targeted technical assistance on LEDS. EC-LEDS is a key component of the President's Global Climate Change Initiative, and is the focus of State and USAID's joint OMB High Priority Performance Goal (HPPG) on Climate Change.

4. **Smart Grid – The future of electrical power transmission**

A smart grid is a modernized electrical grid that uses analog or digital information and communications technology to gather and act on information, such as information about the behaviors of suppliers and consumers, in an automated fashion to improve the efficiency, reliability, economics, and sustainability of the production and distribution of electricity. Georgia's potential in producing a large amount of green energy is widely known. That's why many companies are interested in exporting Georgian electricity abroad.

Using this technology we can make our grid more reliable, help exporting Georgian electricity and avoid a lot of future problems.

5. Modern Magnetic Materials and their future

The modern electro technical industry has significantly increased the competitiveness of magnetic technology which has been achieved as a result of new amorphous magnetic materials. Amorphous magnetic materials characterize by physical, mechanical and electrical-technical qualities. Also by high magnetic penetration, small amount of loss power of coherence, right - angled hysteresis loop, large specific resistance, strong saturation induction and least amount of loss while magnetizing. Based on the above mentioned engineers have started intensively manufacture various devices and equipment on the basis of mentioned electrical magnetic materials. We have studied the state of manufacturing these kinds of transformers in the developed countries

6. Methodology of country's energy security assessment

The presentation will offer several methods for evaluating the level of energy security level, which will allow us to evaluate the level of national energy security, both in quantitatively as well as qualitatively and we will be able to compare these parameters by different countries. Depending on the complexity of access to the information, we will propose a simplified method for evaluating the level of energy security, based on available information.

7. Electricity prices in competitive electricity markets and Georgia's prospects

Opening up the electricity market to more competition might not help bring *power prices* down and such a move should be weighed carefully. Competition might bring good and bad, and public needs to know it. Experience of other countries shows that market opening might not have a positive impact on tariff reduction. On the other hand increased prices are main driven force for investors to put their money in electricity sector. Presentation discusses prospects of electricity prices in Georgian competitive electricity market.

8. Medium term forecast of energy balances

Medium term forecast of Energy sector has to be done in order to see the real picture of the sector. Based on contemporary requirements, methodology of medium-term forecast is worked out and forecast parameters for Energy resources production, the factors influencing the demand for resources and energy exports-imports, is determined for 2020. Solution of this problem is in the unified mathematical-statistical model of mid-term Georgian Energy balance forecast. According to research Georgia satisfies its need, with local energy resources by 35-36 % and this trend will continue until 2020. Therefore it is necessary to take decisive measures to increase electricity generation and also to develop a comprehensive program in generation technologies to replace imported energy resources for household users.

9. Electricity transmission tariff principles based on for the long term RAB-optimal regulation of econometric modeling

In this paper, the well-known methods of analysis for forecasting electricity transmission tariff are established upon the principles of long-term RAB-optimal regulation of econometric modeling. This model has been developed in accordance with the power transmission - dispatch tariff forecasting dynamics. The method of this technique in 2007-2012 technical - economic indicators relevant statistical data extracted from existing reports is carried out according to the program - dispatch tariff volatility forecast for the five-year period. The analysis showed that the program Regulatory Commission - Dispatch tariff is set unfairly. In fact, the tariff is likely to be more than twice the current rate. It is shown that the tariff increase will cause a decrease of electricity tariffs.

10. Renewable Energy Sources

In the last years of the 20th century, the heating systems based on solar energy became very popular in Georgia.

The solar energy transformers are an optimal solution in terms of different aspects of Georgian life: in the villages of mountainous, scarcely populated regions, geological parties, shepherds, military conditions, telecommunication stations and emergency conditions.

Georgia has an important wind energy potential, which is estimated to be able to annually generate 4 billion kilowatt-hours. In 2007 the MOU was signed between the Government of Georgia and the Georgian American company "Karidani" on the construction of 24 MW wind plant in the suburbs of Tbilisi Sea.

According to modern hydro-geological studies, the Georgian geothermal water reserves reach 250 million/m³ per year. At present there are more than 250 natural and artificial water channels where the average temperature of geothermal waters ranges from 30 to 110 C. More than 80% of the geothermal deposits are in Western Georgia.

11. Cost-Benefit Analysis (CBA) Model

The objective of the presentation was to briefly define Cost-Benefit Analysis and describe the Project that is currently underway. CBA is a systematic process for calculating and comparing benefits and costs of a proposal; benefits and costs are expressed in monetary terms, and adjusted for the time value of money. In addition, some key factors (unit, period, discount rate) were addressed. In the second part, the objective of the Project (CBA Model Development for Endure Watershed) and the approach to it was described. The presentation showed the Thematic Areas selected for monetization. For demonstration purposes, one example, (Thematic Area – Resettlement) was further explained and the presenter summed up how TBSC plans to monetize this Area. In order to clarify the process, the presenter listed the sub-thematic areas to be monetized within the Resettlement Thematic Area in two groups: current value of what households have today (existing assets, income streams, social and economic relations) and cost of restoring those.

12. VOLL- The Value of Lost Load for Georgia

VOLL is the value that represents a customer's willingness to pay for reliable electricity service. It is generally measured in dollars per unit of power (\$/MWh). The implication of use of VOLL on energy markets is wide, as it can be used both on the planning side of the market and on the operation side. Estimating VOLL for Georgia is a challenging undertaking as there are several limitations, such as, lack of detailed electricity data, no surveys conducted before, nonexistence of the concept of VOLL at all. Arriving at an accurate VOLL estimate for Georgia in the future will require a comprehensive customer survey process.

Annex 5

List of participants broken down by gender

Men

- 1 Irakli Vashakidze
- 2 Irakli darchiashvili
- 3 Gia Arabidze
- 4 Giga Kereselidze
- 5 Giorgi Kakheli
- 6 Bachana Phiphia
- 7 Sandro Bekauri
- 8 Irakli Bichiashvili
- 9 Ucha Tabagari
- 10 Davit Jintcharadze
- 11 Levan Tetrade
- 12 Merab Tchanturia
- 13 Levan Nuroshvili
- 14 Davit Datashvili
- 15 Giorgi Lomidze
- 16 Davit Tchalidze
- 17 Sergi Modebadze
- 18 Zurab Omiadze
- 19 Tornike Totiauri
- 20 Giorgi Ereimeishvili
- 21 Tengiz Jishkariani
- 22 Lasha Vashalomidze
- 23 Saba Kakhiani
- 24 Bagrati Injgia
- 25 Otar Tabuashvili
- 26 Eduard Gersamia
- 27 Nikoloz Avlikhashvili
- 28 Boris Katcharava
- 29 Kote Tsereteli
- 30 Badur Tchinashvili
- 31 Iakir Bijamovi
- 32 Baadur Chakhodze
- 33 Aleksandre Turdeladze
- 34 Aleksandre Petrosiani
- 35 Giorgi Dudaevi
- 36 Tengo Iordanashvili
- 37 Akaki Grigalashvili
- 38 Guram Mirinashvili
- 39 Beka Beradze
- 40 Jibo Imnadze
- 41 Vaso Enukidze

- 42 Giorgi Chimchiuri
- 43 Demetre Toriashvili
- 44 Merab Tarkashvili
- 45 Davit Tchitchuradze
- 46 Saba Mekantsishvili
- 47 Revaz Batsanadze
- 48 Giorgi Sisvadze
- 49 Nika Ghlonti
- 50 Tato Lapherashvili
- 51 Zurab Gabelaia
- 52 Giorgi Maghradze
- 53 Goga Gogritchiani
- 54 Giorgi Kartoia
- 55 Buba Todua
- 56 Giorgi Bigvava
- 57 Omar Kighuradze
- 58 Giorgi Karmazanashvili
- 59 Sergo Ladunashvili
- 60 Giorgi G abadze
- 61 Bakur Bukia
- 62 Achiko Zerekidze
- 63 Giorgi Chubinidze
- 64 Davit Gugava
- 65 Davit Maisuradze

Women

- 1 Tamar Odisharia
- 2 Tamar Patashuri
- 3 Mariam Avakovi
- 4 Inga Phkhaladze
- 5 Maka Gudishvili
- 6 Marine Razmadze
- 7 Laura Jojishvili
- 8 Marina Tevdorashvili
- 9 Lika Zhorzholiani
- 10 Natia Arabidze
- 11 Nino Gozalishvili
- 12 Nana Kezheradze
- 13 Elene Phantskava
- 14 Mari Mushkudiani
- 15 Anuka Kvetenadze
- 16 Marika Barbaqadze
- 17 Ketevan Tvaradze
- 18 Mariam Abiatar
- 19 Ana Kavelidze
- 20 Magda Tavberidze
- 21 Nino Bashaleishvili
- 22 Phikria Tsiklauri
- 23 Nana Gogolashvili
- 24 Nino Giorgishvili
- 25 Nino Lazashvili
- 26 Mariam Bakhtadze
- 27 Ketevan Janjalashvili
- 28 Salome Khundadze
- 29 Lena Shatakishvili
- 30 Luiza Papava
- 31 Ketevan Mchedlidze
- 32 Nino Chemia
- 33 Ekaterine Rukhadze
- 34 Tania Berminadze
- 35 Tako Antidze
- 36 Sopho Devnozashvili
- 37 Lali Shvelidze

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